

REMARKS/ARGUMENTS

Applicant respectfully requests that the Examiner reconsider the above-identified patent application in light of the Amendment and following Remarks.

The Examiner objected to claim 5 under 37 C.F.R. 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. Since cellulose is now recited in claim 1 as a result of the papers filed on December 27, 2004, the Examiner noted that claim 5 no longer further limits claim 1. In response, Applicant has canceled claim 5.

Applicant has added new claims 20-23. Claim 20 is an independent claim corresponding to the subject matter of original claims 1 and 2. New dependent claims 21, 22, and 23, which depend from new claim 20, are dependent claims related to original claims 4 and 6 and 7, respectively. Support for new claims 20-23 may be found in the specification, including pages 12-13. No new matter has been added.

Claims 1-4, 6, 7, and 20-23 thus remain in this application, of which Claims 1 and 20 are the only independent claims. Claim 5 has been canceled and claims 8-19 remain withdrawn from consideration.

35 U.S.C. §102(e)

The Examiner rejected claims 1, 2, 3, 5, and 6 under 35 U.S.C. §102(e) as being anticipated by U.S. Pat. No. 6,697,249 issued to Maletin (“‘249 Patent”). The Examiner alleged that the ‘249 Patent is directed to a supercapacitor, which is an electrochemical cell system. As for claim 1, the Examiner further alleged that as shown in Fig. 1 of the ‘249 patent, the capacitor includes opposed planar electrode members; the

electrodes are made of a matrix of polymer and SNC powder ('249 Patent, Col. 7, lines 27-63); and the electric double layer capacitor induces a porous, ion-permeable, insulating material separator interposed between electrodes and may be made from a cellulose separator paper ('249 Patent, Col. 12, lines 22-30).

As for claims 2 and 3, the Examiner alleged that the '249 Patent discloses that a plasticizer may be included and that the plasticizer improves the working range of the electrode mixture ('249 Patent, Col. 8, lines 29-36).

With respect to claim 5, the Examiner alleged that the separator may be made from a cellulose separator paper.

With respect to claim 6, the Examiner alleged that the polymer binder may be vinylidene fluoride or tetrafluoroethylene ('249 Patent, Col. 7, lines 50-54).

Anticipation requires that each and every element of the claims be disclosed, either expressly or inherently, in a single prior art reference or embodied in a single prior art device or practice. *See In re Paulsen*, 30 F.3d 1475, 1478 (Fed. Cir. 1994); *Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1565 (Fed. Cir. 1992). There must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of invention. *See Scripps Clinic & Res. Found. v. Genentech, Inc.*, 927 F.2d 1565, 1576 (Fed. Cir. 1991). Absence of any claim element from the reference negates anticipation. *See Kloster Speedsteel AB v. Crucible, Inc.*, 793 F.2d 1565, 1571 (Fed. Cir. 1986).

An anticipatory reference must also enable a skilled artisan to make and use the claimed invention. *See Bristol-Myers Squibb Co. v. Ben Venue Laboratories, Inc.*, 246 F.3d 1368, 1374, 58 U.S.P.Q.2d 1508 (Fed. Cir. 2001)(citing *In re Donohue*,

766 F.2d 531, 533, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985)). “To be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without “undue experimentation.” *In re Wright*, 999 F.2d 1557, 1561 (Fed. Cir. 1993).

A rejection based on 35 U.S.C. §102(e) can be overcome by persuasively arguing that the claims are patentably distinguishable from the prior art, and by amending the claims to patentably distinguish over the prior art. MPEP 706.02(b).

As for claims 1, 2, 3, 6 and new claims 20 and 22, Applicant urges that the pending claims as amended are patentably distinguishable from the prior art. First, the ‘249 Patent does not teach or suggest every limitation in every claim as amended. It does not teach or suggest a unitary laminated cell comprised of electrodes and a paper separator wherein the electrodes adhere to the paper separator. Although the ‘249 patent mentions that the separator interposed between electrodes may be a cellulose separator paper, it does not teach adhesion of the paper separator to the electrodes.

Furthermore, the ‘249 Patent teaches that a plasticizer may be used to make the electrodes as a solvent/softener to bind the polymer with carbon, but that the plasticizer is completely removed before the electrodes are combined with the separator. Therefore, the ‘249 Patent teaches that the solvent, which has to be completely removable, is just being used to help the polymer disperse with the carbon particles during the manufacture of the electrodes. Then the solvent is removed, and one is left with electrodes that are then sandwiched with paper, i.e., not adhered in any way. In Applicant’s invention, however, the plasticizer functions to enhance adhesion of the electrodes to the separator under preselected conditions of heat and pressure.

Since pending claims 2, 3, and 6 depend directly or indirectly from amended claim 1, if amended claim 1 is patentable, these dependent claims are patentable. Likewise, since pending claim 22 depends directly or indirectly from new claim 20, which contains the subject matter of original claims 1 and 2, if new claim 20 is patentable, dependent claim 22 is patentable. Applicant therefore respectfully requests that the Examiner withdraw this ground for rejection.

35 U.S.C. §103(c)

The Examiner rejected claims 4 and 7 under 35 U.S.C. §103(a) as being unpatentable over the '249 Patent in view of U.S. Pat. No. 5,552,239, issued to Gozdz ("239 Patent"). The Examiner admitted that claim 4 differs from the '249 Patent by reciting that the plasticizer is incorporated in the separator. The Examiner further admitted that claim 7 differs from the '249 Patent by reciting particular plasticizer compositions. The Examiner however alleged that the '239 Patent discloses plasticizer materials such as propylene carbonate and the addition of plasticizer to the separator (Col.2: 57-Col. 3:8). The Examiner reasoned that it would have been obvious at the time the invention was made to have used a plasticizer such as propylene carbonate as the plasticizer composition in the '249 Patent because the '239 Patent teaches that it is effective in this application. The Examiner further reasoned that it would have been obvious to have include plasticizer in the separator of the '249 Patent because the properties of the separator would have been improved.

For the Examiner to find that an invention is *prima facie* obviousness, there must be a basis in the art for combining or modifying references (MPEP 2143.01), there must be a reasonable degree of predictability of success in the proposed

modification or combination (MPEP 2143.02), and the prior art must teach or suggest every limitation in every claim (MPEP 2143.03). Moreover, for a reference to be a proper obviousness reference, it must contain (1) detailed enabling methodology for practicing the invention without undue experimentation; (2) a suggestion to modify the prior art to practice the claimed invention; and (3) evidence suggesting that the modification would be successful in achieving the invention. *In re O'Farrell*, 853 F.2d 894, 901, 7 U.S.P.Q.2d 1673, 1681 (Fed. Cir. 1988). *See also In re Nunberg*, 33 U.S.P.Q.2d 1953 (Fed. Cir. 1994); *In re Vaeck*, 947 F.2d 488, 493, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

First, Applicant urges that the cited prior art does not teach or suggest every limitation in either claim 4, claim 7, claim 21 or claim 23 as amended. The '249 Patent does not teach or suggest an electrochemical cell system comprising: opposed planar electrode members composed of a polymeric matrix composition; and an interposed planar separator member; wherein said separator member is a matted fiber paper comprising cellulose and wherein said electrode members adhere to said separator member, the system further comprising a sufficient amount of a plasticizer compatible with said polymeric matrix composition to lower the inherent flow temperature of said polymeric matrix composition and render said polymeric matrix composition capable of adhesive flow under preselected conditions of heat and pressure, wherein said plasticizer is incorporated in said polymeric matrix composition (claim 4). It does not teach or suggest an electrochemical cell system comprising: opposed planar electrode members composed of a polymeric matrix composition; and an interposed planar separator member; wherein said separator member is a matted fiber paper comprising cellulose and

wherein said electrode members adhere to said separator member, the system further comprising a sufficient amount of a plasticizer compatible with said polymeric matrix composition to lower the inherent flow temperature of said polymeric matrix composition and render said polymeric matrix composition capable of adhesive flow under preselected conditions of heat and pressure, wherein said plasticizer is selected from the group consisting of propylene carbonate and mixtures thereof with ethylene carbonate and butylenes carbonate, butyl adipate, cellosolve acetate, dimethyl ethers of diethylene glycol and triethylene glycol, and mixtures thereof (claim 7). It does not teach or suggest an electrochemical cell system comprising: opposed planar electrode members composed of a polymeric matrix composition; an interposed planar separator member; and a sufficient amount of a plasticizer compatible with said polymeric matrix composition to lower the inherent flow temperature of said polymeric matrix composition and render said polymeric matrix composition capable of adhesive flow under preselected conditions of heat and pressure; wherein said separator member is a matted fiber paper comprising cellulose, and wherein said plasticizer is disposed in said separator member (claim 21). It does not teach or suggest an electrochemical cell system comprising: opposed planar electrode members composed of a polymeric matrix composition; an interposed planar separator member; and a sufficient amount of a plasticizer compatible with said polymeric matrix composition to lower the inherent flow temperature of said polymeric matrix composition and render said polymeric matrix composition capable of adhesive flow under preselected conditions of heat and pressure; wherein said plasticizer is selected from the group consisting of propylene carbonate and mixtures thereof with

ethylene carbonate and butylene carbonate, butyl adipate, cellosolve acetate, dimethyl ethers of diethylene glycol and triethylene glycol, and mixtures thereof (claim 23).

Applicants urge that as discussed above, the '249 Patent does not teach or suggest that the electrodes are adhered. The plasticizer as taught by the '249 Patent is used only in the production of electrodes and not to enhance the adhesion of the electrodes to the paper separator. Because the plasticizer was used for a very different purpose in the '249 patent (to enhance electrode production), it would not have been obvious to one of skill in the art to dispose the plasticizer in the separator to enhance adhesion of the electrodes to a separator.

Second, Applicant urges that the Examiner has not established either a basis for combining or modifying references or a reasonable degree of predictability of success in the proposed modification or combination.

Applicant therefore respectfully requests that the Examiner withdraw this ground for rejection.

Since there is no prior art which teaches or suggests the claimed invention, Applicant respectfully requests that the Examiner withdraw all objections to and rejections of the present invention.

Applicant urges that this application is now in condition for allowance and earnestly solicits early and favorable action by the Examiner. If the Examiner believes that issues may be resolved by a telephone interview, the Examiner is respectfully urged to telephone the undersigned at (973) 597-6170. The undersigned also may be contacted via e-mail at blubit@lowenstein.com.

AUTHORIZATION

The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account No. 501,358.


Respectfully submitted,

Lowenstein Sandler PC

By:

Date:

7/18/05



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